ON A DISCOVERY OF FOSSILS ON A NEW HORIZON IN THE LOWER GREENSAND, AT LITTLE STAIRS POINT, SANDOWN BAY, ISLE OF WIGHT.

By THOS. LEIGHTON. F.G.S.

[Read 1st December, 1893.]

IN October, 1892, it was my good fortune to find that a small fall of the cliff at Little Stairs Point, between Sandown and Shanklin, had brought down a quantity of material from what I take to be Fitton's Bed No. 40 (Group xii) of the Lower Greensand.* No fossils have hitherto been recorded from this group.

The locality is immediately to the south of a small fault, which has the effect of placing the dip nearly horizontal at the point. For this reason, no doubt chiefly, falls of the cliff are of rare occurrence.

I have delayed the publication of these facts for twelve months, on account of the absence of Dr. J. W. Gregory from England, because the fossiliferous horizon contains an interesting Polyzoan bed, the specimens from which I was anxious to submit to him. After this communication was announced, however, Dr. Gregory's happy return has enabled me to include therein the results of his hasty examination of the specimens. The Association is greatly indebted to him for giving his attention to this subject at a time when he is so fully occupied with more urgent matters.

Fitton describes the group of beds in which the fossils were found (*op. cit.*, page 318) as consisting here of "alternate beds of very dark slaty clay and greenish sand," but in his description of the same horizon in Chale Bay he gives further information, and mentions large irregular inclusions "of a coarse sand-rock or conglomerate, marked by rifts of false stratification." An inclusion of that kind is a most accurate description of the rock from which my specimens were obtained, and I can only add to it, that the rock contains (besides the fossils) numerous earthy-iron phosphates.

In the most recent contribution to the geology of the Isle of Wight, the 1889 Memoir of the Geological Survey, Messrs. Reid and Strahan quoted Fitton's identification of this group almost

* *Quart. Journ. Geol. Soc.*, vol. iii (1847), p. 289.

in his own words; it may fairly be taken then that there is no dispute whatever as to the horizon.

Five species were found; of these, two are new to the Isle of Wight, two have previously been recorded from other horizons at Atherfield, whilst the fifth, although not recorded from the island before, appears to be well known in collections, bearing the somewhat indefinite locality "Near Shanklin."

Exogyra conica, Sby., is recorded from Atherfield by both Forbes and Fitton; in the table of the latter (*op. cit.*) it is stated to appear in bed No. 33, and to disappear after bed No. 42. The new horizon is, therefore, within its range as previously recorded. The species was extremely plentiful at Little Stairs Point, occurring in clusters and singly.

Pseudodiadema Fittoni, Wright, is recorded by Dr. Wright in his monograph, published by the Palæontographical Society, from bed No. 4 of Fitton's table at Atherfield, where it is stated to be very rare. I obtained portions of tests of three individuals from a single block at Little Stairs Point, so that it must be fairly common upon this horizon.

? *Entalophora* sp. Dr. Gregory writes me concerning this specimen: "This species is generally identified in England as *Ceriocava ramulosa*, but it seems to me probably an eroded *Entalophora*, but microscopic sections will be necessary to determine its position. The specimen is too much eroded to enable the genus to be determined from it."

Messrs. Reid and Strahan record (*op. cit.*) *Entalophora irregularis*, d'Orb., from the Perna Bed at Atherfield, but I cannot find any record from the island of the name Dr. Gregory rejects, so no doubt this species is new to the island.

Ceriopora micropora, Goldf. This species is new to the Isle of Wight.

Multocrescis, aff. *laxata*, d'Orb. Dr. Gregory writes me concerning this species: "Pergens makes *M. laxata* a synonym of *Heteropora dichotoma*; I suppose d'Orbigny's figure is not to be trusted."

There appears to be no previous record from the island under either of these names, but there is a specimen of this species in the Jermyn Street Museum labelled "allied to *Siphodictyon*," with the locality "near Shanklin." That specimen looks suspiciously like a rolled pebble. I understand further from Dr. Gregory that there are specimens also in the British Museum, obtained from Mr. Norman, localised "Shanklin," and that one, at least, of them is certainly a rolled pebble. There can be little doubt that all of these come from this horizon, although the locality "Shanklin" has hitherto generally been taken to refer to the highly fossiliferous horizons of Groups XIII and XIV, following above the beds of Little Stairs Point. I have specimens of this species in my cabinet from Atherfield also, and at Jermyn

Street there is one from Hythe ; all of the specimens that I have seen (*i.e.*, all except those at the British Museum) are in a similar matrix. This Polyzoön is the most characteristic fossil of the horizon ; portions of the rock appear to be entirely permeated by it.

I am indebted to Dr. J. W. Gregory, F.G.S., entirely for the names of the three Polyzoa ; and to Mr. E. T. Newton, F.R.S., for assistance with the other identifications.

NOTES ON THE SHARKS' TEETH FROM BRITISH CRETACEOUS FORMATIONS.

BY A. SMITH WOODWARD, F.G.S., of the British Museum (Natural History).

[*Read Friday, 1st December, 1893.*]

THE specific determination of the detached teeth of sharks and skates is little more than guess work ; and to decide upon their generic relationships with any approach to certainty is also often very difficult. The teeth vary so much in form and proportions in different parts of the mouth, and some well-defined genera and species differ so little from one another in their dentition, that a scientific nomenclature is sometimes quite impossible. Such teeth, however, are among the commonest fossils in many Cretaceous and Tertiary formations, and it is therefore desirable to attempt to give them provisional names. The result may sometimes express an actual fact—sometimes quite the reverse ; but, at any rate, for purposes of correlation it is convenient to have a name for each distinguishable form of tooth. So far as possible, allowance must be made for variation to the extent observed in the jaws of the most nearly related existing genera ; and whenever a group of fossil teeth is discovered, evidently belonging to one mouth, the problem of determination is still further simplified.

With this preface, we propose to briefly review our present knowledge of the Selachian teeth met with in British Cretaceous formations, making special reference to those of the still-existing family of Lamnidæ. Such a review, illustrated by the accompanying plates, may prove of value to collectors ; while several of the specimens described will add a little of importance to the facts already known. The paper is shortened as much as possible by the omission of references to the literature of the subject, these having been fully given, up to the year 1890, in Woodward and Sherborn's *Catalogue of British Fossil Vertebrata*.

FEBRUARY, 1894.]